VOLUME 35 NUMBER 1
ISSN 1071-2690
JANUARY 1999

CONTENTS

LETTERS TO THE EDITOR

Scientific Reports

Primer Mixture Enhances PCR Detection of *Mycoplasma/Acholeplasma* Contaminants in Cell Cultures
Jane Tang, Mengdong Hu, Sunmin Lee, and Richard Roblin 1
Fetal Thymic Organ Culture in Rotating Bioreactors
Bianca Tabourn and Lisa M. Spain 4
Differential Response of the Tail and Body Epidermis of *Rana Catesbeiana* Tadpoles *In Vitro* to the Anticancer Drug, Cisplatin
Jaishri Menon and Miryam Z. Wahrman 8
An Embryonic Cell Line from the Caribbean Fruit Fly, *Anastrepha suspensa* (Diptera: Tephritidae)
Xianzong Shi and Pauline O. Lawrence 12
Differential Response of Embryonic Stem Cells and Teratocarcinoma Cells to Carnosine
Gail McFarland and Robin Holliday 15
UV-Induced But P53 Independent Apoptotic Death in CHO.K1 Cells is Promoted by M Phase Inhibitors
Bor-Show Tzang, Yi-Chyi Lai, and Yin-Chang Liu 17
Influence of Antiestrogens on EGF- and IGF-I-Mediated Proliferation of Human Breast Cancer Cells
Gina M. Tong, Talitha T. Rajah, and J. Thomas Pento 19

CELLULAR MODELS

Behavior of a Cell Line Derived from Normal Human Hepatocytes on Non-Physiological and Physiological-Type Substrates: Evidence for Enhancement of Secretion of Liver-Specific Proteins by a Three-Dimensional Growth Pattern
Matthew Smalley, Kenneth Leiper, David Floyd, Margaret Mobberley, Tim Ryder, Clare Selden, Eve A. Roberts, and Humphrey Hodgson 22
Characterization of the Rat Adrenal Medulla Cultured *In Vitro*
Masahiko Fujinaga, Joan J. Chen, and James C. Scott 33

GROWTH, DIFFERENTIATION AND SENESCENCE

Lipopolysaccharide of *Escherichia Coli*, Polyamines, and Acetic Acid Stimulate Cell Proliferation in Intestinal Epithelial Cells
Jaime Olaya, Vadim Neopikhanov, and Andrés Uribe 43

INFECTIOUS DISEASE/CELLULAR PATHOLOGY

Suppression of Epstein Barr Virus Reactivation in Lymphoblastoid Cells Cultured in Simulated Microgravity
James P. Lang, Sandrine Pierson, and John H. Hughes 49

IMMUNOLOGY

Improved Soft-Agar Colony Assay in a Fluid Processing Apparatus
Allan D. Forsman, Angela R. Herpich, and Stephen K. Chapes 55

VOLUME 35 NUMBER 2
ISSN 1071-2690
FEBRUARY 1999

CONTENTS

LETTERS TO THE EDITOR

Scientific Reports

The Modulation of Cell Shape Influences Porcine Preadipocyte Differentiation
Christophe Boone, Francine Grégoire, Lieve De Clercq, and Claude Remacle 61
Cryopreserved Normal Macrophages as a Control for Assays of Macrophage Function
Lawrence S. Lamb, Jr., Judith B. Willoughby, and William F. Willoughby 64

CELLULAR MODELS

Further Optimization of Culture Method for Rat Keratinocytes: Titration of Glucose and Sodium Chloride
Hiroyuke Oku, Masatoshi Yamashita, Hironori Iwasaki, and Isao Chinen 67
Method to Analyze Collagenase and Gelatinase Activity by Fibroblasts in Culture
Lisa J. Gould, Dorne R. Yager, Gerard M. McGeehan, and Robert F. Diegelmann 75
A Stromal Cell Line from Rainbow Trout Spleen, RTS34st, that Supports the Growth of Rainbow Trout Macrophages and Produces Conditioned Medium with Mitogenic Effects on Leukocytes
Rosemarie C. Ganassin and Niels C. Bols 80
Bio-Stretch, A Computerized Cell Strain Apparatus for Three-Dimensional Organotypic Cultures
Mingyao Liu, Shahram Montazeri, Tony Jedlovsky, Ryan Van Wert, Jun Zhang, Ren-Ke Li, and Jun Yan 87
The Establishment of Heliothine Cell Lines and Their Susceptibility to Two Baculoviruses
A. H. McIntosh, P. D. Christian, and J. J. Grasela 94

GROWTH, DIFFERENTIATION AND SENESCENCE

Exposure to Hyperbaric Oxygen Induces Cell Cycle Perturbation in Prostate Cancer Cells
John E. Kalns and Edward H. Piepmeier 98

INFECTIOUS DISEASE/CELLULAR PATHOLOGY

In Vitro Analysis of Venom from the Wasp *Nasonia vitripennis*: Susceptibility of Different Cell Lines and Venom-Induced Changes in Plasma Membrane Permeability
David B. Rivers, Michele Genco, and Rigoberto A. Sanches 102

GENETICS

Transformation of Lepidopteran and Coleopteran Insect Cell Lines by *Glyptapanteles indiensis* Polydnavirus DNA
D. Gundersen-Rindal, D. E. Lynn, and E. M. Dougherty 111

VOLUME 35 NUMBER 3
ISSN 1071-2690
MARCH 1999

CONTENTS

LETTERS TO THE EDITOR

Scientific Reports

Variability in β-Adrenergic Receptor Population in Cultured Chicken Muscle Cells
Ronald B. Young, Kristin Y. Bridge, and Jeffrey R. Vaughn 115
Growth Inhibition of Human Liver Cancer Cells by Alpha-Fetoprotein Antisense Strategy
Xing-Wang Wang and Hong Xie 118

CELLULAR AND MOLECULAR TOXICOLOGY

Analysis of Cytochrome P450 and Phase II Conjugating Enzyme Expression in Adult Male Rat Hepatocytes
Julio C. Davila and Dale L. Morris 120

CELLULAR MODELS

Effects of Hepatocyte Growth Factor (HGF) and Activin A on the Morphogenesis of Rat Submandibular Gland-Derived Epithelial Cells in Serum-Free Collagen Gel Culture
Miho Furue, Tetsuji Okamoto, Hiroyuki Hayashi, J. Denry Sato, Makato Asashima, and Shigeru Saito 131
Growth and Phenotypic Characterization of Porcine Coronary Artery Smooth Muscle Cells
M. C. Lavigne, P. W. Ramwell, and R. Clarke 136
Alteration of Cytoskeletal Structure, Integrin Distribution, and Migratory Activity by Phagocytic Challenge in Cells from an Ocular Tissue—The Trabecular Meshwork
LiLi Zhou, Yuhong Li, and Beatrice Y. J. T. Yue 144
N5 Endometrial Stromal Cell Line: A Model System to Study Decidual Prolactin Gene Expression
A. K. Brar, Y. Kanda, C. A. Kessler, M. I. Cedars, and S. Handwerger 150
Establishment and Cellular Characteristics of a Hepatocyte Cell Line (OUMS-31) Derived from an Acatalasemic Mouse
Asami Kondo, Masahiro Miyazaki, Hong Pu, Chong Gao, and Masayoshi Namba 155

GROWTH, DIFFERENTIATION AND SENESCENCE

Initial Aspects of Mineralization at the Dentino-Enamel Junction in Embryonic Mouse Incisor *In Vivo* and *In Vitro*: A TEM Comparative Study
J. M. Meyer, P. Bodier-Houllé, F. J. G. Cuisinier, H. Lesot, and J. V. Ruch 159
Structure-Activity Relationship of Polyphenols on Inhibition of Chemical Mediator Release from Rat Peritoneal Exudate Cells
Koji Yamada, Kentaro Shoji, Mitsuo Mori, Takashi Ueyama, Noritaka Matsuo, Shiro Oka, Kazuo Nishiyama, and Michihiro Sugano 169

VOLUME 35 NUMBER 4
ISSN 1071-2690
APRIL 1999

CONTENTS

LETTERS TO THE EDITOR

Scientific Reports

Factors in Serum Regulate Muscle Development in P19 Cells
Sharon Wilton and Ilona Skerjanc 175

BIOTECHNOLOGY

Development of a Serum-Free Medium for Dihydrofolate Reductase-Deficient Chinese Hamster Ovary Cells (DG44) Using a Statistical Design: Beneficial Effect of Weaning of Cells
Eun Jung Kim, No Soo Kim, and Gyun Min Lee 178

CELLULAR AND MOLECULAR TOXICOLOGY

ECC-1 Human Endometrial Cells as a Model System to Study Dioxin Disruption of Steroid Hormone Function
M. Stacey Ricci, Diane G. Toscano, and William A. Toscano, Jr. 183

CELLULAR MODELS

Isolation and Characterization of a Human Hepatic Epithelial-Like Cell Line (AKN-1) from a Normal Liver
Andreas K. Nussler, Gianna Vergani, Susanne M. Gollin, Kenneth Darko, Susanne Gunsauge, Sidney M. Morris, Jr., Antony J. Demetris, Minoru Nomoto, Hans G. Beger, and Stephen C. Strom 190
Characterization of Immortalized Rabbit Lacrimal Gland Epithelial Cells
Doan H. Nguyen, Roger W. Beuerman, Christine L. Halbert, Qiangwei Ma, and Guang Sun 198
H-*ras*-Transformed NRK 52E Renal Epithelial Cells Have Altered Growth, Morphology, and Cytoskeletal Structure That Correlates with Renal Cell Carcinoma *In Vivo*
Carolyn J. M. Best, Lee R. Tanzer, Patricia C. Phelps, Ronald L. Merriman, George G. Bader, Benjamin F. Trump, and Kathryn A. Elliget 205
Nitric Oxide Donors, Sodium Nitroprusside and S-Nitroso-N-Acetylpenicillamine, Stimulate Myoblast Proliferation *In Vitro*
J. A. Ulibarri, P. E. Mozdziak, E. Schultz, C. Cook, and T. M. Best 215

GROWTH, DIFFERENTIATION AND SENESCENCE

Differentiation Markers of Mouse C_2C_{12} and Rat L_6 Myogenic Cell Lines and the Effect of the Differentiation Medium
Gerrit L. Portier, Ad A. G. M. Benders, Arie Oosterhof, Jacques H. Veerkamp, and Toin H. van Kuppevelt 219
Growth and Differentiation Regulate CD44 Expression on Human Keratinocytes
Jing Zhou, John G. Haggerty, and Leonard M. Milstone 228

GENETICS

Amplification of the Y Chromosome in Three Murine Tumor Cell Lines Transformed *In Vivo* by Different Human Prostate Cancers
Asha S. Multani, Mustafa Ozen, Alpana Agrawal, Vicki L. Hopwood, Andrew C. Von Eschenbach, and Sen Pathak 236

VOLUME 35 NUMBER 5
ISSN 1071-2690
MAY 1999

CONTENTS

LETTERS TO THE EDITOR

Scientific Reports

Improved Recovery of Active Radiolabeled TGFβ1 by TGFβ Receptor Type III Affinity Chromatography
Katsuya Nakano, Akiyoshi Taniguchi, Mikio Kan, and Wallace L. McKeehan 241
Authentication of Two Cell Lines Developed from the Larval and Pupal Ovaries of *Spodoptera litura* by rRNA Based Methods
Yogesh S. Shouche, Milind S. Patole, Usha Pant, Shirish Paranjape, and Kalyan Banerjee 244
SV40 Large T Antigen Immortalization of Rat Hepatic Stellate-Like Cells
Takayoshi Tokiwa, Yutaka Yata, Terumi Takahara, Akiharu Watanabe, Shin Enosawa, Seiichi Suzuki, Junko Kano, and Masayuki Noguchi 246

BIOTECHNOLOGY

Comparison of Cell Line Maintenance Procedures on Insect Cells Used for Producing Baculoviruses
Dwight E. Lynn 248

CELLULAR MODELS

A Protein from *Naegleria* Amoebae Causes Apoptosis in Chick Embryo and CHO Cells after They Become Confluent
T. H. Dunnebacke and K. H. Walen 252
High Density Micromass Cultures of Embryonic Limb Bud Mesenchymal Cells: An *In Vitro* Model of Endochondral Skeletal Development
Maria Alice Mello and Rocky S. Tuan 262
Parabolic Growth Patterns in 96-Well Plate Cell Growth Experiments
Hélène M. Faessel, Laurence M. Levasseur, Harry K. Slocum, and William R. Greco 270
A Novel Human Astrocyte Cell Line (A735) with Astrocyte-Specific Neurotransmitter Function
T. N. C. Price, J. F. Burke, and L. V. Mayne 279
Primary Cultures of Heart Cells from the Scallop *Pecten maximus* (Mollusca-Bivalvia)
F. Le Marrec-Croq, D. Glaise, C. Guguen-Guillouzo, C. Chesne, A. Guillouzo, V. Baulo, and G. Dorange 289

GROWTH, DIFFERENTIATION AND SENESCENCE

1,25-Dihydroxyvitamin D_3 Inhibits Parathyroid Hormone-Related Peptide mRNA Expression in Fetal Rat Long Bones in Culture
Rafik Karmali, Nicole Nijs-De Wolf, Ingo Beyer, Geoffrey N. Hendy, and Pierre Bergmann 296

INFECTIOUS DISEASE/CELLULAR PATHOLOGY

Activity Spectra of *Bacillus thuringiensis* δ-Endotoxins against Eight Insect Cell Lines
J. L. Gringorten, S. S. Sohi, and L. Masson 299

VOLUME 35 NUMBER 6
ISSN 1071-2690
JUNE 1999

CONTENTS

BOOK REVIEWS

Basic Cell Culture Protocols, Second Edition
Reviewed by J. W. Shay 305
Oxford Dictionary of Biochemistry and Molecular Biology
Reviewed by Thomas E. Spencer 306

LETTERS TO THE EDITOR

Scientific Reports

New Adipogenic Cell Lines Derived from C3H10T1/2
Akira Ogawa, Ken-Ichi Ohba, Yoko Uchida, Keiji Wada, Toshimasa Yoshioka, and Takamura Muraki 307
Stable Transformation of Lepidopteran Cultured Cells with Novel Cloning Method
Shuichiro Tomita, Toshiki Tamura, and Shigeo Imanishi 311

CELLULAR AND MOLECULAR TOXICOLOGY

Toxicity of Hoafamide and Its Metabolite Chloroacetaldehyde in Cultured Renal Tubule Cells
James Springate, Kenneth Chan, Hong Lu, Sherry Davies, and Mary Taub 314

CELLULAR MODELS

Characterization of a New Tissue-Engineered Human Skin Equivalent with Hair
Martine Michel, Nicolas L'Heureux, Roxane Pouliot, Wen Xu, François A. Auger, and Lucie Germain 318
Spontaneous Activation of Endothelial Cells: A Central Role for Endogenous IL-1α
McKenzie B. Steen, Frank L. Tuck, and Rathinam S. Selvan 327
The Establishment of New Cell Lines from *Pseudaletia unipuncta* with Differential Responses to Baculovirus Infection
Ping Wang, Roger Young, and Robert R. Granados 333
Characterization of a Cell Line Established from Diethylstilbestrol-Induced Renal Tumors in Syrian Hamsters
Guy Laurent, Denis Nonclercq, Fabrice Journé, Régine Brohée, Gérard Toubeau, Paul Falmagne, and Jeanine Anne Heusonstiennon 339
Human Endothelial Cells Cultured on Microporous Filters Used for Leukocyte Transmigration Studies Form Monolayers on Both Sides of the Filter
A. Jill Mackarel, David C. Cottell, Muiris X. FitzGerald, and Clare M. O'Connor 346
Bioassay Development: The Implications of Cardiac Myocyte Motility *In Vitro*
M. C. T. Denyer, M. Richle, J. Hayashi, M. Scholl, C. Sproessler, S. T. Britland, A. Offenhaeusser, and W. Knoll 352

GROWTH, DIFFERENTIATION AND SENESCENCE

The Presence of Transcription Factors in Chicken Albumin, Yolk and Blastoderm
Paul A. Knepper, Chandra S. K. Mayanil, Erin Hayes, William Goossens, Richard W. Byrne, and David G. McLone 357

VOLUME 35 NUMBER 7
ISSN 1071-2690
JULY–AUGUST 1999

CONTENTS

BOOK REVIEWS

Introduction to Cell and Tissue Culture
Reviewed by Thomas E. Spencer 365
Molecular Biology Made Simple and Fun
Reviewed by Thomas E. Spencer 365

LETTERS TO THE EDITOR

Scientific Reports

An *In Vitro* Model for Screening Oral Hypoglycemics
Ramesh R. Bhonde, Pradeep B. Parab, and Virendra S. Sheorin 366
Aged Garlic Extract™ Attenuates the Cytotoxicity of β-Amyloid on Undifferentiated PC12 Cells
Michael Selassie, Brenya Griffin, Nomalanga Gwebu, and Ephraim T. Gwebu 369
Cell-Specific Activation of the HB-EGF and ErbB1 Genes by Stretch in Primary Human Bladder Cells
Hiep T. Nguyen, John M. Park, Craig A. Peters, Rosalyn M. Adam, Anna Orsola, Anthony Atala, and Michael R. Freeman ... 371

CELLULAR AND MOLECULAR TOXICOLOGY

Selective Cytotoxicity of 3-Amino-L-Tyrosine Correlates with Peroxidase Activity
John G. Bruno, Terence S. Herman, V. Lorenzo Cano, Lucy Stribling, and Johnathan L. Kiel 376

CELLULAR MODELS

Relationship Between Bisphosphonate Concentration and Osteoclast Activity and Viability
Dorothy J. Rouse, Lois A. Etre, Michael J. Lovdahl, and Donald J. Pietrzyk 383
Establishment and Characterization of 13 Cell Lines from a Green Turtle (*Chelonia mydas*) with Fibropapillomas
Yuanan Lu, Vivek R. Nerurkar, Alonso A. Aguirre, Thierry M. Work, George H. Balazs, and Richard Yanagihara 389
Quantitative Aspects of the Selective Killing of Transformed Cells by Methotrexate in the Presence of Leucovorin
Ming Chow and Harry Rubin 394
A New Human Prostate Carcinoma Cell Line, 22Rv1
R. Michael Sramkoski, Thomas G. Pretlow II, Joseph M. Giaconia, Theresa P. Pretlow, Stuart Schwartz, Man-Sun Sy, Susan R. Marengo, Jahng S. Rhim, Desheng Zhang, and James W. Jacobberger 403

GROWTH, DIFFERENTIATION AND SENESCENCE

The Postnatal Age of Rat Lung Fibroblasts Influences G_1/S Phase Transition *In Vitro*
Walid Al-Jumaily and Margaret C. Bruce 410
The Effects of Cell Density, Attachment Substratum and Dexamethasone on Spontaneous Apoptosis of Rat Hepatocytes in Primary Culture
Liang Qiao and Geoffrey C. Farrell 417

VOLUME 35 NUMBER 8
ISSN 1071-2690
SEPTEMBER 1999

CONTENTS

BOOK REVIEWS

Using Antibodies: A Laboratory Manual
Reviewed by Jerry W. Shay 425
Introduction to Immunocytochemistry, Second Edition
Reviewed by E. D. Harris 426

LETTERS TO THE EDITOR

Scientific Reports

Use of Differentiating Human Trophoblasts in *In Vitro* Assay
M. Jaggi, S. Farheen, and P. K. Mehrotra 427
Culture of Primary Bovine Mammary Epithelial Cells
Elvina Matitashvili and Dale E. Bauman 431
Differentiation in a Human Retinal Precursor Cell Line: Limitation to Multipotency
Ifeoma Ezeonu, Steven Smith, and Kamla Datt 435

CELLULAR MODELS

Geometric Control of Switching Between Growth, Apoptosis, and Differentiation During Angiogenesis Using Micropatterned Substrates
Laura E. Dike, Christopher S. Chen, Milan Mrksich, Joe Tien, George M. Whitesides, and Donald E. Ingber 441
Relation of the Slow Growth Phenotype to Neoplastic Transformation: Possible Significance for Human Cancer
Ming Chow and Harry Rubin 449
Effect of Selective and Non-Selective Cysteine Protease Inhibitors on the Intracellular Processing of Interleukin 6 by HEPG2 Cells
Jane V. Peppard and Anna K. Knap 459

GROWTH, DIFFERENTIATION AND SENESCENCE

The Influence of Culture Media on Embryonic Renal Collecting Duct Cell Differentiation
Karl Schumacher, Raimund Strehl, Sabine Kloth, Michel Tauc, and Will W. Minuth 465

INFECTIOUS DISEASE/CELLULAR PATHOLOGY

Staphylococcus aureus Adherence to Nasal Epithelial Cells in a Physiological *In Vitro* Model
A. Hoefnagels-Schuermans, W. E. Peetermans, M. Jorissen, S. Van Lierde, J. van den Oord, R. De Vos, and J. Van Eldere 472

GENETICS

Structure and Chromosomal Locations of Mouse Steroid Receptor Coactivator Gene Family
Guang Ning, Vesna Jurecic, Antonio Baldini, and Jianming Xu 481

VOLUME 35 NUMBER 9
ISSN 1071-2690
OCTOBER 1999

CONTENTS

BOOK REVIEWS

The Developing Heart
Reviewed by Ramiro Ramirez-Solis 487

LETTERS TO THE EDITOR

Scientific Reports

Establishment and Characterization of a Rat Pepsin-Producing Gastric Cell Line (OUMS-37)
Hong Pu, Chong Gao, Takae Yuasa, Masayoshi Namba, Asami Kondo, Ken-ichi Inada, and Masakiyo Sakaguchi 488
Alpha-Tocopherol as a Protective Agent in Cell Culture
Thierry Chepda, M. Cadau, Annette Chamson, Christian Alexandre, and Jacques Frey 491

CELLULAR AND MOLECULAR TOXICOLOGY

Cytotoxicity of Organophosphate Anticholinesterases
C. J. Cao, R. J. Mioduszewski, D. E. Menking, J. J. Valdes, E. J. Katz, M. E. Eldefrawi, and A. T. Eldefrawi 493

CELLULAR MODELS

Induction of Three-Dimensional Assembly of Human Liver Cells by Simulated Microgravity
Vladimir I. Khaoustov, Gretchen J. Darlington, Humberto E. Soriano, Bhuvaneswari Krishnan, Diana Risin, Neal R. Pellis, and Boris Yaffe 501
The Role of Fructose-1, 6-Diphosphate in Cell Migration and Proliferation in an *In Vitro* Xenograft Blood Vessel Model of Vascular Wound Healing
Hari H. P. Cohly, James W. Stephens, Michael F. Angel, James C. Johnson, and Angel K. Markov 510
Constructing an *In Vitro* Cornea from Cultures of the Three Specific Corneal Cell Types
Adelheid I. Schneider, Katharina Maier-Reif, and Thomas Graeve 515

GROWTH, DIFFERENTIATION, AND SENESCENCE

Retinoic Acid Selectively Activates the ERK2 but not JNK/SAPK or P38 Map Kinases when Inducing Myeloid Differentiation
Andrew Yen, Mark S. Roberson, and Susi Varvayanis 527
Oligonucleotide NX1838 Inhibits $VEGF_{165}$-Mediated Cellular Responses *In Vitro*
Carol Bell, Eric Lynam, Darla J. Landfair, Nebojsa Janjic, and Marc E. Wiles 533

SPECIAL POSTER SESSION ABSTRACTS 543

VOLUME 35 NUMBER 10
ISSN 1071-2690
NOVEMBER–DECEMBER 1999

CONTENTS

LETTERS TO THE EDITOR

Scientific Reports

Laminin-Mediated Cell Spreading Caused Integrin Colocalization with Intracellular Signaling Molecules (PAK and ENA) in a *Drosophila* Neuronal Cell Line
Yasumitsu Takagi, Kamiko Ui-Tei, and Setsuo Hirohashi 549
Culture of Skeletal Muscle Cells from Giant Panda
Ji-Long Liu, Yu-Can Chen, Qing-Yuan Sun, Xiang-Fen Song, and Da-Yuan Chen 553
Establishment of an Alpha-Fetoprotein-Producing Cell Line Derived from Gastric Cancer
Masahiko Matsuda, Akihiko Watanabe, Hidetomo Sawada, Yukishige Yamada, Hiroshige Nakano, Mineko Iwai, and Yoshiaki Iwai 555
ECV304 (Endothelial) Is Really T24 (Bladder Carcinoma): Cell Line Cross-Contamination at Source
Wilhelm G. Dirks, Roderick A. F. MacLeod, and Hans G. Drexler 558
Effects of Microgravity on the Embryonic Pancreas
Michael I. Rose, Dale C. Brown, Neil R. Pellis, Christopher A. Crisera, Kari L. Calen, Michael T. Longaker, and George K. Gittes 560
Modification of Melanogenesis in Cultured Human Melanoma Cells
Andrzej Slominski, Gennady Ermak, and Jacobo Wortsman 564

CELLULAR AND MOLECULAR TOXICOLOGY

Effects of Commonly Used Mitogens on the Cytotoxicity of 4-Tertiary Butylphenol to Human Melanocytes
Fan Yang, Zalfa Abdel-Malek, and Raymond E. Boissy 566

CELLULAR MODELS

A New *In Vitro* Bioassay for Cyst Formation by Renal Cells from an Autosomal Dominant Rat Model of Polycystic Kidney Disease
Roxana Pey, Juergen Bach, Gisela Schiren, Norbert Gretz, and Mathias Hafner 571
Evaluation of an *In Vitro* Coculture Model for the Blood–Brain Barrier: Comparison of Human Umbilical Vein Endothelial Cells (ECV304) and Rat Glioma Cells (C6) from Two Commercial Sources
Jamie L. Scism, Dennis A. Laska, Jeffrey W. Horn, Jerry L. Gimple, Susan E. Pratt, Robert L. Shepard, Anne H. Dantzig, and Steven A. Wrighton 580
Improved Attachment and Spreading in Primary Cell Cultures of the Eastern Oyster, *Crassostrea virginica*
John T. Buchanan, Jerome F. La Peyre, Richard K. Cooper, and Terrence R. Tiersch 593
Validation of an Experimental Model of Fetal Limb Growth and Development: Practical Applications for the Study of Fetal Defects Associated with Therapeutic Agents in Pregnant Women
Pamela E. Houghton 599
Cultivation of Epithelia from the Secretory Coil of the Ovine Apocrine Gland: Evidence of Secretory Cell Function and Ductal Morphogenesis *In Vitro*
Z. Maras, G. Yardley, E. Deane, and G. P. M. Moore 606
An Established Cell Line from the Beetle, *Xylotrechus pyrrhoderus* (Coleoptera: Cerambycidae)
Kikuo Iwabuchi 612
Isolation and Primary Culture of Viable Multicellular Endothelial Isolates from Hard Corals
Elizabeth J. Kopecky and Gary K. Ostrander 616
Phenotypic and Functional Characteristics of Porcine Peritoneal Mesothelial Cells
J. Ohan, M. A. Gilbert, J. P. Brouland, J. P. Rougier, G. Trugnan, M. Wassef, G. Leseche, and L. Drouet 625

GROWTH, DIFFERENTIATION, AND SENESCENCE

Growth of Normal Oral Keratinocytes and Squamous Cell Carcinoma Cells in a Novel Protein-Free Defined Medium
Nobuyuki Kamata, Kazuhiro Yokoyama, Ryoichi Fujimoto, Naohiro Ueda, Eiji Hayashi, Hiroaki Nakanishi, and Masaru Nagayama 635
Insulin but not IGF-I is Required for the Maintenance of the Adipose Phenotype in the Adipogenic Cell Line 1246
Ginette Serrero and Nancy Lepak 642
Heparin/Endothelial Cell Growth Supplement Regulates Matrix Gene Expression and Prolongs Life Span of Vascular Smooth Muscle Cells through Modulation of Interleukin-1
Ju-Yu Hsu, Mei-Yu Hsu, Thomas Sarger, Meenhard Herlyn, and Elliot M. Levine 647
Androgen Receptor Expression in Primary Prostate Cancers of Lobund-Wistar Rats and in Tumor-Derived Cell Lines
Jacqueline M. Bentel, Marie A. Pickering, Marris Pollard, Judith A. Clements, and Wayne D. Tilley 655

Index 663

Contents 669

Special Reviewer's Index 674